

Zero Retries issue 0161 2024-07-19

Zero Retries is an independent newsletter promoting technological innovation that is occurring in Amateur Radio, and Amateur Radio as (literally) a license to experiment with and learn about radio technology. Now in its fourth year of publication, with 1900+ subscribers. Radios are computers - with antennas!

About Zero Retries

Steve Stroh N8GNJ, Editor

Jack Stroh, Late Night Assistant Editor Emeritus

In this issue:

- **Request To Send**
Steve Stroh N8GNJ
- **Followup on HAM RADIO 2024 (Lack of) Zero Retries Interesting Developments**
Steve Stroh N8GNJ
 - **Ample Zero Retries Interesting Activity in Europe**
 - **Ulrich L. Rohde Awards**
 - **Technology Firms Recruiting at HAM RADIO 2024**
 - **TetraPack One Year Followup**
- **Back to the Future: Are Hackers the Future of Amateur Radio?**
Dan Romanchik KB6NU
- **What I've Been up to in Open Ham Radio - July 2024**
Hibby MM0RFN
- **ZR > BEACON**
Steve Stroh N8GNJ
 - **Breaking - 2024 Digital Communications Conference Canceled**
 - **Texas Amateurs Prepare for Moon Day Demonstration**
 - **Information Technology Disaster Resource Center (ITDRC) Update**
 - **Support What You Want to See in the World**
 - **QUISK Software Defined Radio Software**
 - **WiMo Window Quad Dualband 2m / 70cm Antenna**
- **Join the *Fun* on Amateur Radio**
- **Closing The Channel**
- **Footnotes for this Issue**

Web version of this issue - <https://www.zeroretries.org/p/zero-retries-0161>

Request To Send

Commentary by Editor Steve Stroh N8GNJ

Paid Subscribers Update

- My thanks to **Paul Elliott WB6CXC** for being a **Renewed Annual Paid Subscriber** to Zero Retries this past week!
- My thanks to **Prefers to Remain Anonymous 39** for becoming a **New Founding Member** to Zero Retries this past week!
- My thanks to **Chuck Hast KP4DJT** for becoming a **New Annual Paid Subscriber** to Zero Retries this past week! KP4DJT shared this public message:

I was just reading your Bits Oughta Be Just Bits, and fully agree. In looking at the common products out there I also like products that use TDMA so as to also obtain more usage out of the bit stream. I was hoping that M17 would go that route. But in my view bits is bits and whatever you can stuff in a data stream should be free to go.

- My thanks to **Prefers to Remain Anonymous 38** for becoming a **New Annual Paid Subscriber** to Zero Retries this past week!

Paid subscriptions offset some of the costs of publishing Zero Retries weekly, and support some additional services and projects such as Zero Retries videoconferences that will debut this Fall, the forthcoming Zero Retries email list, and other ongoing expenses.

Financial support is a real vote of confidence for continuing to publish Zero Retries.

Major Conference Countdowns

- [JARL Ham Fair 2024](#) in Tokyo, Japan on 2024-08-24 and 25, in 5 weeks!
 - [Pacificon 2024](#) in San Ramon, California, USA on 2024-10-18 thru 20 in 13 weeks. Tina KD7WSF and I plan to attend Pacificon 2024 (which makes it “major” to us). I have offered to do a presentation about Technological Innovation in Amateur Radio, and (I *think*) my proposal has been accepted.
-

Have a Good Idea Suffering from Censorship or Apathy? Route Around It!

There’s a (now in-) famous phrase that many of us remember vividly from the early days of the Internet:

The Net Interprets Censorship As Damage and Routes Around It

There’s [some variations of this phrase](#) (generally attributed to John Gilmore W0GNU) but you get the idea.

I interpret this phrase very generally to mean that if there is something that you’d like to see in the world, but it isn’t there, either for reasons of active suppression... or just apathy / lack of inclusion... by people or entities that you think should be “doing something” about your idea... ***do it yourself!***

The tools for “do it yourself” have never been better, including publishing on the Internet, or creating hardware, or creating software, or creating groups of like-minded folks.

We are not dependent on them to make good things happen in the world! In this issue of Zero Retries, the respective activities of MM0RFN and KB6NU are but two examples of that truth. Both of them saw a need and decided that they would give it a try to create the change they wanted to see in the world, and both of their activities are materially improving Amateur Radio *from their individual efforts!* The existence of Zero Retries is entirely an example of “I got tired of cool stuff in Amateur Radio not being mentioned by ***them...***” and decided that ***I could do something about it.***

Another (near future) example is an email list about a cool subject that I'd like to see more activity in, but the creator / moderator of that email list is completely unresponsive to requests to help restart the conversations there. So, I'm going to route around that email list and create a new one with the same focus. Some will criticize the creation of a second email list as "forking the conversation" or "unnecessary duplication". Those criticisms would be valid - if the original email list was active and responsive. But it isn't, and I'll be stating that prominently when I start the new email list - "calling 'em as I see 'em".

Thus seeing all the examples of individual empowerment here in Zero Retries, I encourage all of you Zero Retries Readers to do the same. *We are not passive victims of the "Same Old, Same Old" effect that's so pervasive in Amateur Radio!* Step up out of your comfort zone and be a co-conspirator for progress in Amateur Radio (and adjacent areas to Amateur Radio such as radio experimentation that doesn't require an Amateur Radio license, like [Meshtastic](#) and [SatNOGS](#)).

If you have an idea that you'd like to see in the world... maybe it's just something simple like a new Packet Radio Bulletin Board System (PBBS) in your area¹, but don't know any like-minded folks in your area to help out, drop an email (or a comment) to me here at Zero Retries and I'll publish your name, contact info, and your idea and perhaps some co-conspirators for your idea will get in touch.

Now I Know About Scheduling Publication...

In the 30 minutes prior to Zero Retries auto-publishing at 15:30 Pacific, there was an announcement that the 2024 Digital Communications Conference had been canceled. That was obviously Zero Retries Interesting and I scrambled to include it in this issue. But, I didn't "unschedule" the auto-publication and thus as 15:30 happened, Zero Retries 0161 was auto-published in its current state, *mid-edit*. Fortunately it doesn't look too bad, just the headline under ZR > BEACON didn't quite make it into the email version. Now I know how to manage this situation in future issues.

73,

Steve N8GNJ

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Followup on HAM RADIO 2024 (Lack of) Zero Retries Interesting Developments

By Steve Stroh N8GNJ

This is followup to my brief mention of HAM RADIO 2024 in **Zero Retries 0160**.

One Zero Retries subscriber who attended HAM RADIO 2024 confirmed that they did not see any Zero Retries Interesting *new* products at the conference. But in that brief mention, I did not mean to say that there wasn't *any* Zero Retries Interesting activity at HAM RADIO 2024.

Ample Zero Retries Interesting Activity in Europe

I should have clarified that there is *considerable* Zero Retries Interesting activity *ongoing* in Europe including:

- [AMSAT-DL](#) and [AMSAT-UK](#) are active in Amateur Radio space activities,
- [BrandMeister](#) network of digital repeater systems,

- [Es'hail 2 / QO-100](#) Geosynchronous Amateur Radio payload,
- European Space Agency has proposed a [second Geosynchronous Amateur Radio payload](#), potentially covering a portion of the Western Hemisphere,
- [HAMNET.EU](#) microwave network,
- [M17 Project](#) was begun in Europe,
- [Multi Mode Digital Voice Modem \(MMDVM\) Project](#) was begun in Europe,
- [New Packet Radio](#) was begun in Europe,
- [Universal Radio Controller](#) product originated in Europe.
- And much more that doesn't come readily to mind as I compose this article.

I'm sure those activities had an (ongoing) presence at HAM RADIO. I was soliciting information about *new* products, projects, etc. that were exhibited at HAM RADIO 2024, of which a few have now emerged.

Ulrich L. Rohde Awards

[Celebrating Software Defined Radio](#)

At Ham Radio 2024, the International amateur radio exhibition, last week in Friedrichshafen, Germany, the Software Defined Radio Academy (SDRA) celebrated its 10-year anniversary. Founded in 2014, the SDRA has become a new platform for the exchange of knowledge surrounding software defined radio. In the early years, the academy's lectures were recorded with primitive camera technology, but today a video team takes the recordings to a completely different level. The SDRA's YouTube channel now has 150 uploads, 4850 subscribers, and many more views of the videos.

The winners of the Ulrich L. Rohde Award, created in 2022 for innovative research in the field of software defined radio, were also announced:

The **GNU Radio project for its good software solutions for software defined radio (SDR) technology**. GNU Radio is a [free software](#) development toolkit that provides signal processing blocks to implement [software-defined radios](#) and [signal processing systems](#).

The **DARC-AJW team for the SDR questions in the new questionnaire and the standardization of education**. According to group leader Matthias Jung, DL9MJ, posting on X, the team's work "focused on integrating SDR into the German amateur radio exam and educational materials."

Rob Robinett, AI6VN, with Paul Elliot, WB6CXC, for their fundamental work and influence on scientific research in other areas.

Christoph V. Wüllen, DL1YCF, with Laurence Barker, G8NJJ, for fundamental work on stations.

Dr. Rohde, N1UL, has been an avid amateur radio operator holding several licenses in the United States and Germany. He has been licensed since 1956 and involved in technology and systems and has received worldwide recognition. In 2015, he won first place in the ARRL DX Contest in the Northern New Jersey Section. He also operates N1UL/MM on his yacht, the Dragonfly, and is Trustee of the Marco Island Radio Club, K5MI.

I normally would not use an entire article's contents in Zero Retries, but to excerpt just the names would lose the context, thus I opted to include the entire article, with full attribution credit to ARRL.

Kudos to all the winners of this Zero Retries Interesting award, especially to Zero Retries contributor Paul Elliot WB6CXC!

Technology Firms Recruiting at HAM RADIO 2024

Another Zero Retries Interesting followup from HAM RADIO was this [public comment on KB6NU's Ham Radio Blog](#) by Ed Durrant DD5LP:

Given the lack of RF engineers (indeed electronic engineers in general), the recent HAM RADIO Friedrichshafen, included a job fair where 4 major technology firms were looking for suitable people to train to fill the large number of open positions that they (and other companies) have.

TetraPack One Year Followup

As I was browsing the BrandMeister website for the above, I discovered this Zero Retries Interesting announcement:

[TetraPack presentation at HamRadio 2024 in Friedrichshafen](#)

Discover today's extraordinary unveiling from the Brandmeister TetraPack team at HamRadio 2024 in Friedrichshafen. Dive into the remarkable new features revealed in their latest project update by downloading the presentation deck [here](#)!

- Supported TETRA TMO features
 - Group calls
 - Simplex and duplex individual calls
 - Phone calls
 - Short text messaging and geo-positioning
 - Packet data access
- Bridging with BrandMeister
 - Group calls (any talk-group > 90 available across both networks)
 - Bridging talk-groups with "classic" ham-radio technologies (D-STAR, System Fusion, etc.)
 - Simplex individual calls and SMS bridging
 - SMS services via APRS/MQTT/API
 - Geo-positioning to APRS/MQTT/API
- Supported radio-access technologies
 - Motorola CompactTETRA (CTS)
 - Motorola Dimetra (EBTS/MBTS/MTS)

TETRA is a trunked radio system for public safety / government use. [Digital Mobile Radio \(DMR\)](#) is also a trunked radio system, but is intended for private / commercial use. Both systems were developed in Europe by European Telecommunications Standards Institute (ETSI).

This is a *dense* presentation of (what seems to me to be) a *very* ambitious project. I can't begin to do it justice in offering a compact description of this project, just a few points I *think* I gleaned from a quick browse:

- Adapting TETRA for Amateur Radio justified a separate online network (TetraPack) that is separate from, but interoperable with the BrandMeister Network. Thus TetraPack users can converse with M17 and other Amateur Radio digital voice users via TetraPack "peering" with BrandMeister.
- A TETRA base station (repeater) [can scale beyond other systems](#). TETRA provides 4 time slots in each 25 kHz channel, and additional 25 kHz channels can be "ganged" into a TETRA base. One of the time slots is a "signaling" (control?) channel, but only one signaling time slot is required regardless of the additional 25 kHz channels used.

- Tetra uses a different CODEC - [ACELP](#) which provides superior voice quality compared to DMR or P25. Per Wikipedia: *The ACELP patent expired in 2018 and is now royalty-free*. Thus ACELP is effectively open source (?) - no royalties due (such as the case with DMR and other Amateur Radio digital voice systems that [use the DVSI AMBE CODEC chip](#)).
- This was kind of neat - *It is possible to have full-duplex conversations, so your radio behaves like a cellular phone*.
- From a few bullet points, data *seems to be supported* as part of the system:
 - Short text messaging
 - Position data (similar to [APRS](#))
 - Packet data access
 - Basic web-based browsing is possible (comparable to [WAP](#))

The “ganging” of 25 kHz channels seems like a very powerful capability for Amateur Radio that would allow multiple Amateur Radio groups to share a common Base Station (Repeater) infrastructure (and the cost of same) at a good location. Perhaps a repeater that gangs 4x 25 kHz channels into a single 100 kHz repeater that could provide up to 15 individual timeslots for use by different clubs, different user groups such as one devoted to travelers passing through, different activities such as data and text chat, regular nets that don’t “monopolize” the system, etc.

Attending HAM RADIO is on my “bucket list” and I hope to do so in within the next few years.

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Back to the Future: Are Hackers the Future of Amateur Radio?

By Dan Romanchik KB6NU

Editor’s Note: This article was originally posted [KB6NU’s Ham Radio Blog](#) by Zero Retries Pseudostaffer Dan Romanchik KB6NU. It amplifies on a central theme of Zero Retries, that if Amateur Radio is presented to the current generation (which skews “technical” more than previous generations) and specifically presented to techies... Amateur Radio looks pretty interesting. But a “presentation of Amateur Radio” must be relevant to that audience, and KB6NU absolutely nails that in his excellent set of slides for the referenced presentation at the HOPE Conference. KB6NU’s article is getting a lot of traction, including a [prominent mention on Hackaday](#), and to date has garnered 98 comments.

Last fall, under the aegis of [Ham Radio Village](#), I was awarded a grant to take my one-day Tech class on the road. Ham Radio Village believes that more people in technical fields should have amateur radio licenses and that amateur radio is underrepresented in the hacker, STEM/STEAM, and maker communities. Currently, there is little outreach to these communities about the benefits of amateur radio in their fields.

Enter the “ham radio evangelist.” In October of 2023, we applied for and were awarded an \$18,000 grant to reach out beyond the boundaries of traditional amateur radio communities, including scientific, engineering, hacker, maker, and STEM/STEAM focused conferences where attendees might have an interest in amateur radio (e.g., DEFCON, GRCon, Maker Faire, IEEE Communications Conference).

This grant provides funding to both educate these communities about amateur radio and to streamline the process of obtaining an amateur radio license. If accepted, HRV will give a talk about amateur radio, teach a one-day Technician Class license course, and offer a Volunteer Examiner test session at an event. These activities will provide these new hams with a lifelong hobby that aligns with their professional and technical interests. And, it will also enable these new hams to bring their experiences and ideas to amateur radio, thereby advancing the hobby.

HOPE couldn’t have gone any better

HOPE XV was the first event at which we evangelized ham radio. In my mind, it couldn’t have gone any better.

On Friday, I gave a talk entitled “Ham Radio for Hackers.” ([Click here](#) to see the slides.) I wandered in about 10 minutes before the talk was to start at 1:00 pm. There were already so many people there that I thought I was in the wrong room.

Adding to my confusion, was the fact that the slide announcing the previous talk was still up on the screen. I turned around and started heading out, but caught myself before I left the room. This *had* to be the place, and indeed it was.

In the talk, I explained some of the basics of amateur radio, discussed some of the projects that radio amateurs are currently hacking on, and then how to get a ~~hacking~~, errrr ham radio license. I probably could have gone into a little more depth on some of the projects, but in general, I think that the talk was very well-received.

Tech class yields 25 new hams

On Saturday, I held my one-day Tech class. I was concerned that attendance would be poor because:

1. They scheduled the class on Saturday, and there were lots of other interesting talks being held that day.
2. They scheduled the class to start at 10:30 am, which could have thrown off my timing.

As it turned out, the class went really well. The students asked lots of questions—which caused the class to run about an hour longer than usual—but they were all good questions. 25 hackers passed the test and got their licenses. There were some failures, but it’s unclear whether those people were in the class or not. We invited anyone to show up at 5:00 pm and take the test, whether they were in the class or not. I’m going to claim that 100% of the students passed the test.

I can say that all those who passed the test were very excited that they did. Many of them came up to me after the class and thanked me. I can also say that this group was much younger than normal. I’m guessing that there were only two students over the age of 50. There was a good number of women, too. I counted at least six women.

I really want to thank the VE team. Without them, this couldn’t have happened. They were:

- Seth, N2SPG
- Nicole, AD2IM
- Ed, N2XDD
- Grant, W4KEK
- Vlad, AF7QV

A great start

I think that this is a great start to the ham radio evangelist program. Not only did we license 25 new hams, they all seem very interested in the hobby.

I also talked to a lot of different people about the program. One fellow, a young guy working with the [Philadelphia Maker Faire](#), invited me to contact him about doing a class next spring.

So, onward and upward! I think the hackers at HOPE are just the kind of people we want to get into the hobby. They’re young and interested in hacking ham radio. It will be fun to see what they can do.

...

Editor’s Note: Again, KB6NU [posted his slides for this presentation](#) in another post on his blog, and each of them I wholeheartedly agree with the points he made to this audience.

In addition to his Amateur Radio evangelism, KB6NU publishes an excellent set of [No-Nonsense Study Guides](#) for the US Amateur Radio Technician, General, and Extra classes of license - recommended! KB6NU generously offers his [Technician study guide as a free PDF](#).

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What I've been up to in Open Ham Radio - July 2024

By Hibby MM0RFN

***Editor's Note:** This was originally a casual, personal email from MM0RFN to me, and I thought it was so informative about the UK Packet Radio Network and associated projects that I encouraged him to make it into an [article](#) that could be cited in Zero Retries. MM0RFN generously agreed for this to be a full article in Zero Retries.*

...

I do a lot in free software for ham radio, and Steve at Zero Retries encouraged me to take this email I sent him and translate it into something here.

UK Packet Radio Network

[UKPRN](https://nodes.ukpacketradio.network/packet-network-map.html?rfonly=1) is going nicely, with the Nottingham and South segment really quite impressively interconnected over RF - <https://nodes.ukpacketradio.network/packet-network-map.html?rfonly=1>. I'm excited to see the growth down there!

We're sorting out forwarding and routes in Aberdeen too, and working to grow the RF path to Inverness.

We're still selling and shipping NinoTNC boards & controllers - see the current preorder happening [here](#). New people are coming on air - it's fun to see new bubbles of activity slowly appear. This month has seen a number of UK Foundation licensees (Technician equivalent) set up unattended 'GB7xxx' callsign packet nodes - a privilege that was previously restricted to Full (Extra) license holders only - they are limited to 5W ERP, but it's made growing the network infrastructure hugely more accessible to all interested parties.

Packet Radio Guide

In the odd periods of quiet I've found, I've been fiddling with writing Hibby's Packet Radio Guide (HPRG) -

<https://guide.foxk.it/>

as a method of documenting what I know in an accessible format for our new users to accompany my repository. This is largely written from a Debian/Ubuntu/Raspi perspective and makes the assumption you'll install packages from my Repository, but hopefully the [Beginners guide](#) and [Linux Primer](#) will prove helpful. I'm slowly building out bits as creativity hits me, but the process of writing, thinking about presentation of information and focus is quite therapeutic!

Writing the guide has been a great excuse to focus on the 'first timer' elements of Linux - specifically why are things different from Windows, what do I need to learn, how do I edit text (as much as I love vim & nano, they aren't really beginner friendly!) and I've been trying to incorporate elements of that.

Maxwell

HPRG has made me focus quite a lot on the new-user experience - resultantly I have been toying with the idea of starting a Debian based Distribution that contains a set of sensible default packages to get people on the air with the packet guide onboard as a help reference and recommendations of next steps for explorers. It feels like quite a natural progression for the repositories - pre-installed, just download and go.

I have the first live-tests of the project codenamed 'Maxwell' running in a VM and a laptop. I want a common interface and package set across both x86/64 and arm64/armhf architectures, so it's predictably usable and understandable across laptops and Raspberry Pis. It's not yet publicly available, maybe by the end of summer. I think there's a lot to be said for something that ships both pre-prepared and documented and has a bit more focus/face than 'the Debian Hamradio Team' or 'Ubuntu Hamradio' and builds on the work I already do.

This project is beginning to get off the ground - I am simultaneously working on build infrastructure, live-cd build infrastructure, QA testing and learning hard. I'm focussing a lot on it - I find learning quite intoxicating and get into really tight iteration cycle where experiments and changes absorb all of my time and attention for days at a time.

EuroBSDCon

I am speaking about packet radio, open software and UKPRN at EuroBSD Con in September - <https://events.eurobsdcon.org/2024/talk/VMBGCY/>. This means I need to finish and test my FreeBSD port of BPQ32! I know it's worked in the past, but I probably need to do some work to get it working again.

Debian Work

Hello! I'm a Debian Developer now, I've been once since January and have been contributing to the project since 2015!

I've been chipping away at bugs in Debian too! Cqrlog has been broken in Ubuntu for some time now - I've fixed the root cause and now it's a work-in-progress to get the updates backported to older Ubuntu's. This in particular has been on my todo list for a little too long, but Ubuntu's [SRU](#) feels impenetrable to me as an outsider/upstreamer. Svxlink has been updated as well so that it doesn't start all its services on boot - that was stealing soundcards from the OS and making a system unusable for anything requiring audio (including radio fun!) if you had installed the hamradio-all, hamradio-rigcontrol or hamradio-digitalvoice software collections.

WSJTX

Sadly, WSJTX, which we hold up as an example of 'ham radio done right' thanks to an open spec and open implementation is looking to ship binary executables with no code for their new 'Superfox' feature - this has already arrived in ~rc5 of their upcoming release that we've not yet added to Debian. I understand that it's related to the DXPedition signing process by NorCal DXF - they will be the only group able to 'approve' DXPeditions (concerning for someone who's not US based already - why do they get to be the sole arbiters of what's real and isn't?).

We'll need to patch out the functionality to ship it to Debian as we cannot distribute this nonfree software, which is a great shame - our users will become second class citizens, as will Ubuntu users and other families like the Fedora users etc.

We manage to handle trusted cryptographic signatures to produce the Debian OS using only free software, but sadly the stakeholders of signatures in Superfox seem determined that obscurity and hiding the secret sauce is the correct way to combat DXPedition Piracy. The discussion is on their development mailing list around

<https://sourceforge.net/p/wsjt/mailman/message/58790809/>

Editor's Postscript: My thanks again to MM0RFN for this great report, and his work on Hibby's Packet Radio Guide. We've had Amateur Radio Packet Radio technology for four decades now, but it's only been in this decade that we're getting around to documenting the many better ways we can do Amateur Radio Packet Radio such as using the [NinoTNC](#) instead of "classic" TNCs such as the (still being sold) [Kantronics KPC-3 Plus](#), using [Raspberry Pi dedicated computers](#) instead of desktop PCs, and modern operating systems such as [Debian Linux](#) instead of Windows (now, with interstitial advertising!). We've been able to do all of this, and many, many have done all of this, but what's been lacking is a good reference on tying all of this cool stuff together. Thus kudos to MM0RFN for tackling this. Sometimes, what it takes to progress things in the world, in technology, and Amateur Radio, is for someone to decide that, **well, if no one else is going to do it, I might as well try to do it.**

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ZR > BEACON

By Steve Stroh N8GNJ

Short mentions of Zero Retries Interesting items.

[Breaking - 2024 Digital Communications Conference Canceled](#)

Stana Horzepa WA1LOU on the TAPR aprssig (and several others) email list :

After careful consideration and weighing all available options, we regret to inform you that the 2024 ARRL/TAPR Digital Communications Conference (DCC), scheduled for September 20-21, 2024, has been cancelled. This decision was not made lightly, but due to logistical challenges, we believe it is in the best interest of all involved.

We understand the inconvenience this may cause and sincerely apologize for any disruption to your plans. We appreciate your understanding and support during this time. Should you have any questions, please do not hesitate to contact us.

Well... this is a shame. Like the still-unannounced death of CQ Magazine, I think it's now reasonable to "leap" to the conclusion that we've seen the last "ARRL/TAPR" Digital Communications Conference (in 2022, not counting the "Mini DCC" in late 2023).

Thus I think the "field is clear" to discuss the creation of a new, *independent* Digital Communications Conference, and to accelerate that discussion, I've created a new email list:

<https://groups.io/g/new-dcc>

This group is to discuss the creation and operation of a conference similar to the long-running Amateur Radio Digital Communications Conference that was formerly sponsored / managed by ARRL and TAPR. The 2024 DCC was canceled by TAPR and (at the time this group was created) it doesn't seem likely that TAPR will be able to sponsor / manage future DCCs.

Like "Old DCC", some goals of "New DCC" are:

- A conference held in person in North America, over a Friday / Saturday / Sunday
- Rotate the location of "New DCC" to various cities in North America
- While "New DCC" would be focused on the in-person experience, it would be live video streamed, and recorded for later archival viewing.
- Presentation of formal papers / presentations will be a primary aspect of "New DCC".

A "New DCC" would have to be operated independently, perhaps creating a new organization solely focused on conducting such a conference.

Thus, (at least initially) lacking the resources of a sponsoring organization such as TAPR, financial aspects of such a conference will be a primary point of discussion; without financial resources, such an event cannot be scheduled.

[Texas Amateurs Prepare for Moon Day Demonstration](#)

Amateur Radio Newsline Report 2437 for Friday July 12th, 2024:

STEPHEN/ANCHOR: Between an eclipse in the spring and then flares and storms a few weeks ago, the sun has been getting a lot of attention lately. Now it's the moon's turn - and Travis Lisk N3ILS tells us how the moon is getting its day, at least in Texas.

TRAVIS: The Frontiers of Flight Museum in Dallas is once again marking "Moon Day" on the 20th of July, a date to celebrate the anniversary of the Apollo 11 mission's landing on the moon. According to the schedule of events, the moon will have its day in the sun at last through a variety of presentations. The Dallas Amateur Radio Club will show how hams communicate via EME, or moon bounce and AMSAT ambassadors will be present to demonstrate what radio communication is like through amateur satellites. The keynote speaker will be former NASA astronaut Gregory Johnson, whose experience piloting early space shuttle flights contributed toward the construction of the International Space Station.

The six-hour program is considered the year's largest space-related event in the Dallas-Fort Worth area.

This is Travis Lisk N3ILS.

(AMSAT)

Because Amateur Radio Newsline is intended as an audio program, they typically don't feature web links of the source of their info - in this case, only a reference to "AMSAT". The [closest match I could find on the AMSAT website](#) was this:

Tom Schuessler is still looking for a few volunteers from the DFW area to assist with the "Moon Day event at the Frontiers of Flight Museum on Saturday, July 20. This is a general public STEAM day with seminars, activities and exhibitors relating to space exploration and astronomy. He will have the CubeSat Simulator, Fox engineering model, explanation of satellite orbits and if available in the time frame, outdoor satellite passes worked. Volunteers get free admission and lunch and a break area. Tom needs to know by probably middle of next week. Drop Tom an email at [tshuessler \[at\] amsat \[dot\]org](mailto:tshuessler[at]amsat[dot]org). [ANS thanks AMSAT for the above information.]

The activities relating to Amateur Radio (*Earth Moon Earth communications! Amateur Radio Satellites!*) at Dallas (Texas, USA) [Frontiers of Flight Museum](#) on July 20th (55th anniversary of humanity's first steps on Luna) is even grander than what I had imagined (on a personal scale) for my idea I called "**Neil's Night**" (Part 1, Part 2). I never realized any of what I discussed about Neil's Night; the idea was much more ambitious than I ended up having personal bandwidth to implement. But I'm glad *someone* had the vision to combine the grandest adventure of humanity to date with hands-on involvement in Amateur Radio *at a very public venue*. Kudos to [Tom Schuessler N5HYP](#) and the [Dallas Amateur Radio Club](#) for stepping up to this challenge!

Perhaps the ideas of the Frontiers of Flight Museum's [Moon Day 2024 event](#) could be duplicated in 2025 at other aviation-themed museums such as [Seattle's Museum of Flight](#), Washington DC's [Smithsonian National Air and Space Museum](#), Dayton Ohio's [National Museum of the U.S. Air Force](#), etc. ... if enough interested and motivated Amateur Radio Operators can be found to participate.

In fact, wouldn't it be cool if [aviation-themed museums](#) (there are a number of them) that host "Moon Day" events made it a point to try to "work each other" on Earth Moon Earth communications?

[Information Technology Disaster Resource Center \(ITDRC\) Update](#)

ITDRC is a relatively new Communications Emergency Response organization that I think is relevant in this decade and beyond because its capabilities reflect current emergency communications needs for the public such as providing emergency Internet connectivity via Wi-Fi, etc. While ITDRC is interested in Amateur Radio experience (it's one of the questions on their [volunteer form](#)), it's not a primary qualification.

Thus I feature information from ITDRC occasionally in Zero Retries.

2024 has been a very busy year so far.

From tornadoes, to wildfires, to an unseasonably early Hurricane Beryl, catastrophic events have impacted a huge portion of the country in the last few months, sending our teams from coast to coast.

Since the end of April, ITDRC has responded to 15 significant events, providing boots on the ground connectivity and technology infrastructure support. With resources activated within 24 hours, we ensured response and recovery agencies across sectors could effectively mobilize to help communities impacted, and ultimately help survivors heal.

New Mexico Wildfires

On Monday June 17, 2024, the South Fork and Salt fires ignited on the Mescalero Apache Reservation. ITDRC has been actively engaged; coordinating with federal, local, state, tribal, non-governmental, and private sector entities to provide Information, Communications, and Technology (ICT) support to responders and the impacted communities.

May 2024 Severe Weather and Tornado Outbreak

ITDRC is providing support to communities in Florida, Michigan, Nebraska, Oklahoma, and Texas after a dangerous storm system made its way across the US.

Hurricane Idalia

Teams are providing emergency communications, WiFi connectivity, and cell phone charging stations in shelters and command centers and performing assessments for unmet communications and technical needs.

If I was younger and more flexible, I would probably be involved in ITDRC. If you're interested in ITDRC, their website is <https://www.itdrc.org>.

Support What You Want to See in the World

Jason Milldrum NT7S in Applied Etherics newsletter:

A few weeks ago, I ran across a guest essay from Wojciech Kaczmarek, SP5WWP on the Zero Retries Substack entitled *What Stalls Amateur Radio Development?* I don't necessarily agree with everything written in this editorial, but I do believe in the general message that we need new ways of funding our FOSS amateur radio/hobby electronics endeavors, if we all want to continue to enjoy the fruits of many valuable hours of development from talented people in this hobby.

I'd like to note that this is not some kind of passive-aggressive way to nudge you to support me financially on this Substack. If anything, this is a way for me to attempt to hold myself publicly accountable so that I more fully live up to the ideals that I'm espousing here, as well as to try to put these ideas in front of more peoples' eyeballs. I would encourage you to support projects and creators that inspire you the most. With that in mind, I'm going to pull some quotes out of the linked article so I can riff off them to add some of my own ideas. I encourage you to follow the link above to read the article in its entirety.

...

With that said, let me make some suggestions for concrete actions that you can take to help move things in a better direction:

- The biggest thing you can do is provide that financial contribution to projects that you use regularly or simply want to see succeed. I'm working on changing my habits so that I can budget a bit more every month to contribute to creators and projects on a continuing basis.
- If you find a problem with a project, be quick to offer positive feedback and help, and slow to offer criticism. Pointing out issues is necessary, but let's not do it in a needlessly critical way, nor use them as a cudgel against the people working on the project.
- In a similar vein, if you really feel strongly about something with one of these projects, put some skin in the game. Whether it is via your time or financially, your opinion means a lot more if you actually have something riding on it.
- In general, try to patronize small creators and businesses more often. Please don't buy clones off of Aliexpress and the like. None of us are getting rich off of this, and when some random overseas company **free-rides** on a small creator's designs, it just hurts the prospects of future work being done.
- One area where I know we need a lot more work is in social networking. YouTubers are already pretty good at this, but I think it would be beneficial if we all started supporting and cross-promoting each other more. I don't know exactly how this should work in practice, so any suggestions would be most helpful.

It's a huge cliché, but we're going to have to be the kind of change that we want in this world. By learning some new habits, we can create a more self-sustaining ecology that will benefit all of us in the long run.

NT7S' entire article is well worth a read and he makes additional points beyond what SP5WWP and I have made in Zero Retries.

For support, as soon as NT7S begins offering his [Etherkit products again](#), I'll add him to the Zero Retries Interesting Small Vendors Catalog.

[QUISK Software Defined Radio Software](#)

What is Quisk?

Quisk is a Software Defined Radio (SDR) and is the software that controls my receiver and transmitter. Quisk rhymes with "brisk", and is QSK plus a few letters to make it easier to pronounce. QSK is a Q signal meaning full breakin CW, and Quisk has been designed for low latency CW operation. It works fine for SSB and AM too. Quisk is written in Python and C, and all source is included so you can change it yourself. The Quisk receiver can read the sample data, tune it, filter it, demodulate it, and send the audio to the sound card for output to external headphones or speakers. The Quisk transmitter can accept microphone input and send that to your transmitter via a soundcard or Ethernet. For CW, Quisk can mute the audio and substitute a side tone. Quisk offers these capabilities:

- Quisk can control the HiQSDR.
- Quisk can control Hermes-Lite hardware.
- Quisk can control SoftRock hardware for both receive and transmit.
- Quisk can control the SDR-IQ by RfSpace, and several other hardwares.

If you have supported hardware, then Quisk is ready for you to use. If you have other receive hardware, then you will need to change the file `quisk_hardware.py` to connect your receiver to Quisk. For example, if you change your VFO frequency with a serial port, then you need to change `quisk_hardware.py` to send characters to the serial port. The file `quisk_hardware.py` is written in the Python programming language, a very easy language to learn and use. I have tried to make Quisk easy to modify so it can be used for hardware other than my own.

My thanks to [Amateur Radio Weekly Issue 339](#) for the pointer to Quisk.

[WiMo Window Quad Dualband 2m / 70cm Antenna](#)

An interesting product from WiMo in Germany:



Image courtesy of WiMo

Quad loop as a mono band antenna for 2m or 70cm, or a dual band version for both bands. Full wavelength loop, gain approx. 1dBD, includes BNC connector. The loop can be opened at one corner, which allows for fast and very small packing. SWR adjustment with a plastic screw at gamma match feed. Both antennas are mounted to the window with oversized suction cups, can be mounted either for horizontal or vertical polarization.

I saw this interesting antenna at a recent Amateur Radio club meeting and it seems a perfect external antenna for use in an apartment or condo or even a home where you cannot otherwise install external antennas. It's very light weight and can be collapsed easily, so it's even suitable for traveling. I've not seen anything similar from US Amateur Radio sources.

Leave a comment

Share

Join the *Fun* on Amateur Radio

If you're not yet licensed as an Amateur Radio Operator, and would like to join the fun by *literally having a license to experiment with radio technology*, check out

Join the Fun on Amateur Radio for some pointers.

Zero Retries Frequently Asked Questions (FAQs) — In development 2023-02.

Closing the Channel

In its mission to highlight technological innovation in Amateur Radio, promote Amateur Radio to techies as a literal license to experiment with radio technology, and make Amateur Radio more relevant to society in the 2020s and beyond, Zero Retries is published via email and web, and is available to everyone at no cost. Zero Retries is proud *not to participate* in the Amateur Radio Publishing Industrial Complex, which hides Amateur Radio content behind paywalls.

My ongoing *Thanks* to:

- Tina Stroh KD7WSF for, well, *everything!*
- **Founding Members who generously support Zero Retries financially:**
 - Founding Member 0000 - Steven Davidson K3FZT (Renewed 2024)
 - Founding Member 0002 - Chris Osburn KD7DVD (Renewed 2024)
 - Founding Member 0003 - Don Rotolo N2IRZ (Renewed 2024)
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 - Founding Member 0008 - Prefers to Remain Anonymous 14
 - Founding Member 0009 - Prefers to Remain Anonymous 19
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- Numerous Annual and Monthly subscribers who also generously support Zero Retries financially!

Want to Support Zero Retries?

- The *most* effective way to support Zero Retries is to simply mention Zero Retries to your co-conspirators that are also interested in knowing more about technological innovation that is occurring in Amateur Radio and encourage them to become a fellow subscriber.
- One particularly effective method of promoting Zero Retries is to add a mention of Zero Retries to your [QRZ](#) page (or other web presence) and include a link:

<https://www.zeroretries.org>
- If you'd like to financially support Zero Retries, becoming a paid subscriber is *greatly* appreciated and helps offset expenses incurred in publishing Zero Retries. Paid subscriptions for Zero Retries are *entirely optional*, as explained in this special issue of ZR:
Zero Retries Administrivia - Activating Payment Options.

These blogs and newsletters regularly feature Zero Retries Interesting content:

- [Dan Romanchik KB6NU](#) mentions “Zero Retries Interesting” topics so regularly on his blog (that I otherwise wouldn't know about) that I've bestowed on him the honorific of Pseudostaffer.
- [Jeff Davis KE9V](#) also mentions “Zero Retries Interesting” topics so regularly on his blog (that I otherwise wouldn't know about) that I've bestowed on him the honorific of Pseudostaffer.
- [Amateur Radio Weekly](#) by Cale Mooth K4HCK is a weekly anthology of links to interesting Amateur Radio stories that often feature “Zero Retires Interesting” topics.
- [Experimental Radio News](#) by Bennet Z. Kobb AK4AV discusses (in detail) Experimental (Part 5) licenses issued

by the US FCC. It's a *must-read-now* for me!

- [RTL-SDR Blog](#) - *Excellent* coverage of Software Defined Radio units.
- [TAPR Packet Status Register](#) has been published continuously since 1982.
- [Hot Iron - The Journal of the Constructor's Club](#) is a delightful quarterly newsletter.
- Other Substack Amateur Radio newsletters recommended by Zero Retries.

These YouTube channels regularly feature Zero Retries Interesting content:

- [HB9BLA Wireless](#) by Andreas Spiess HB9BLA
- [KM6LYW Radio](#) by Craig Lamparter KM6LYW (home of the [DigiPi project](#))
- [Modern Ham](#) by Billy Penley KN4MKB
- [Tech Minds](#) by Matthew Miller M0DQW

These podcasts regularly feature Zero Retries Interesting content:

- [Ham Radio Workbench](#) by George Zafiropoulos KJ6VU (and friends)
- [Foundations of Amateur Radio](#) by Onno Benschop VK6FLAB

Zero Retries is currently using the [Substack email publishing platform](#) to publish Zero Retries. It's particularly suitable for small newsletters as you can get started for no cost.

If you're reading this issue on the web and you'd like to see Zero Retries in your email Inbox every Friday afternoon, just click below to join **1800+** other subscribers:

Subscribe now

Please tell your co-conspirators about Zero Retries — just click:

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Offering **feedback or comments** for Zero Retries is equally easy — just click:

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If you're a fellow smart person that uses **RSS**, there *is* an **RSS feed for Zero Retries**.

Social Media:

Zero Retries (N8GNJ) is on Mastodon — n8gnj@mastodon.radio — just click:

[Zero Retries / N8GNJ on Mastodon](#)

Zero Retries (N8GNJ) is also on Bluesky — [@n8gnj](#) — just click:

[Zero Retries / N8GNJ on Bluesky](#)

Email issues of Zero Retries are “instrumented” by [Substack](#) to gather basic statistics about opens, clicking links, etc.

More bits from Steve Stroh N8GNJ:

- [SuperPacket blog](#) — *Discussing new generations of Amateur Radio Data Communications — beyond Packet Radio (a precursor to Zero Retries)*
- [N8GNJ blog](#) — *Amateur Radio Station N8GNJ and the mad science experiments at N8GNJ Labs — Bellingham, Washington, USA*

Thanks for reading!

Steve Stroh N8GNJ / WRPS598 (He / Him / His)

These bits were handcrafted (by a mere human, not an Artificial Intelligence bot) in beautiful Bellingham ([The City of Subdued Excitement](#)), Washington, USA, and linked to the Internet via [Starlink Satellite Internet Access](#).

2024-07-19

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Footnotes for this Issue

[1](#)

Putting up a PBBS is one of my top 5 priorities for Summer 2024.